

# **SYSTEMS AND METHODS FOR DELAY IN STARTUP OF MULTIPLE COMPONENTS**

## **ABSTRACT OF THE DISCLOSURE**

Systems and methods for delay in startup of multiple components such multiple  
5 disk drives in computer systems to stagger associated spikes in resource usage during the  
initial startup of each component are disclosed. A delay module generally includes a  
detector to detect signal quality between a power supply line and a system component, a  
delay generator, and a switch that opens upon detecting insufficient signal quality. The  
switch may open to disconnect the component from the power supply line upon detection  
10 of insufficient signal quality by, e.g., comparing the signal quality to a threshold or  
detecting signal stability during a predetermined time period. An iteration is performed  
for each successive detection of insufficient signal quality in which a back off or delay  
selected from a period that increases for each iteration may be applied.